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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/615,908 | 07/10/2003 | Katsumi Hisano | 240047US2RD | 9556 |

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OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

WRIGHT, INGRID D

ART UNIT PAPER NUMBER

2835

DATE MAILED: 02/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|--------------------------------------|--|
| Office Action Summary | Application No. 10/615,908 | Applicant(s) HISANO ET AL. | |
| | Examiner Ingrid Wright | Art Unit 2835 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Ishida et al. US 6173576 B1.

With respect to claim 1, Ishida et al. teaches a first flow channel disposed upstream of the electronic element (12) in the flow of the cooling medium (30); a second flow channel (20) disposed downstream of the electronic element (12) in the flow of the cooling medium (30); and an active heat transport element (18) comprising a heat intake portion (see, for example, area 1 indicated on fig. 2) and a heat outlet portion (see, for example, area 2 indicated on fig. 2), the active heat transport element (18) configured to conduct heat from the heat intake portion (see, for example, area 1 indicated on fig. 2) to the heat outlet portion (see, for example, area 2 indicated on fig. 2), the heat intake (see, for example, area 1 on fig. 2) portion being thermally connected with the first flow channel so as to conduct heat from the cooling medium (30), the heat outlet portion (see, for example, area 2 on fig. 2) being thermally connected with the second flow channel (20) so as to conduct heat to the cooling medium (30).

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With respect to claim 2, Ishida et al. teaches a cooling portion 29 configured to cool the electronic element (12) by the cooling medium (30), the cooling portion (29) being disposed downstream of the first flow channel and upstream of the second flow channel (20) in the flow of the cooling medium.

With respect to claim 3, Ishida et al. teaches the first flow channel, the second flow channel (20) and the cooling portion (29) are integrally formed.

With respect to claim 4, Ishida et al. teaches the active heat transport element (18) is a Peltier element.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 5,6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa et al. (US 6728102 B2) in view of Ishida et al. (US 6173576 B1).

With respect to claim 5, Ishikawa et al. teaches (Fig. 16) an electronic device (1) having an electronic element (12) producing concentrated heat, the electronic device (1) having a first chassis (2) for housing the electronic element (12) and a second chassis (3) connected with the first chassis (2) by means of a hinge (24) so as to be foldable, comprising: a cooling medium circuit (see Column 9, Line 49) comprising a pump (132) for circulation of a cooling medium (Column 9, Line 49) between the first chassis (2) and the second chassis (3); a cooling device (1) housed in the first chassis (2) and connected with the cooling medium circuit (see Column 9, Line 49), the cooling device (31,34) comprising; a heat intake portion (31) and a heat outlet

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portion (38), a first flow channel (131) thermally connected with the heat intake portion (31) so as to conduct heat from the cooling medium to the heat intake portion (31); a cooling portion (34) for heat exchange between the electronic element (12) and the cooling medium (see Column 9, Line 49); and a second flow channel (130) thermally connected with the heat outlet portion (38) so as to conduct heat from the heat outlet portion (38) to the cooling medium (see Column 9, Line 49), wherein the cooling medium flows from the first flow channel (131) via the cooling portion (34) to the second flow channel (130); and a heat radiation unit (123) housed in the second chassis (see Fig. 16) and connected with the cooling medium circuit (see Column 9, line 49) so as to radiate heat transported from the cooling device (31,34).

Ishikawa et al. does not teach an active heat transport element (Peltier).

Ishida et al. teaches a Peltier element (18), an active heat transport element.

Since the inventions of Ishikawa et al. and of Ishida et al. are from the same field of endeavor (cooling) the purpose of the Peltier element being an active heat transport element as taught by Ishida et al. would be recognized in the invention of Ishikawa et al.

It would have been obvious to a person of ordinary skill in the cooling art at the time the invention was made to utilize the Peltier element of Ishida et al. with the device as taught by Ishikawa et al., in order to enhance heat transfer.

With respect to Claim 6, Ishida et al. teaches fins (22) arranged on the heat intake portion (see, for example, area 1 indicated on fig. 2) and on the heat outlet portion (see, for example, area 2 indicated on fig. 2) of the active heat transportation unit (18), configured to be thermally connected to the active heat transportation unit (18). Also note, there is a portion of the second flow channel that extends past the first electronic device in fig. 2).

Response to Arguments

4. In response to the Applicant's arguments, Ishida et al. teaches a first flow channel (1) in the flow of the cooling medium (30). Ishida et al. teaches that channels 20 and 26 can be in fluid communication with a main duct. Fig. 2 of Ishida et al. teaches a side view representation of Fig. 1 of Ishida et al. The fan will generate air flow through the channel. Since, Ishida et al. teaches that channels 20 and 26 can be in fluid communication with a main duct, and in regards to the Fig. 2, there is a first flow channel upstream of the electronic element (12) and a second flow channel (20) downstream of the electronic element (12) in the flow of the cooling medium (30). Also note, there is a portion of the second flow channel (20) that extends past the first electronic device (12) shown in fig. 2.

Ishida et al. further teaches a heat intake portion (see, noted area on fig. 2 of Ishida et al.), which is thermally connected to a first flow channel and conducts heat from a cooling medium and a heat outlet portion (see, noted area on fig. 2 of Ishida et al.), which is thermally connected to a second flow channel (20) and conducts heat to the cooling medium (30).

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ingrid Wright whose telephone number is (571) 272-8392. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild can be reached on (571) 272-2800, ext 35. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

IDW


LISA LEA-EDMONDS
PRIMARY EXAMINER